

ABSTRACT OF THE DISCLOSURE

An antenna tower and support structure for use with an antenna tower, which allow a number of antennas or antenna panels to be mounted thereto, while maintaining the compactness of the overall structure and still providing high strength, such as is needed to resist high winds. The antenna tower includes an antenna support structure mounted to the antenna mast for supporting one or more antennas or antenna panels. The antenna support structure includes a bottom plate for mounting to the mast (or to another antenna support structure) and a top plate spaced from bottom plate. A beam with multiple webs extends between the bottom plate and the top plate. The beam includes a central post and a number of stiffening webs extending generally radially outwardly from the central post. The stiffening webs help to provide substantially greater stiffness against flexure and bending, without making the overall structure larger (or not much larger effectively). In this way, an antenna tower can be constructed that meets the competing needs of great structural rigidity and compactness.